AMENDMENTS TO THE SPECIFICATION

Please amend page 22-23 of the Specification as follows:

Crosstalk from the differential mode to the common-mode can be analyzed as follows. When driving channel 1 differentially:

$$I_{L\_SC} = -T \cdot V_O = Y_L \cdot V_{CAL} = \left[\begin{array}{c|c} Y_{DD} & Y_{DC} \\ \hline Y_{CD} & Y_{CC} \end{array}\right] \cdot \left[\begin{array}{c} V_{CAL\_D} \\ \hline V_{CAL\_C} \end{array}\right]$$

$$V_{CAL} = [V \quad 0 \quad \cdots \quad 0 \mid \varepsilon V \quad 0 \quad \cdots \quad 0]^T$$

instead of measuring just the first column of Y_{DD}, we will also get ε times the first column of Y_{DC} added to it.

Y_{DC} contains only the mismatch in Y_{L2} shunt components, and Y_{L3B} stray capacitances. For a rough order of magnitude estimate ... the shunt elements in Y_{L2} have 1/10 the admittance of the diagonal elements of Y_{DD}. The mismatch in these elements (which is what Y_{DC} contains) is probably < 1/30 times that. Finally, □ is on the order of 1/1000. This makes this error term on the order of 3 ppm of the diagonal elements of Y_{DD}, and should be negligible.

Please amend the Abstract as follows:

A method and system for calibrating a sensing array used in marker localization. The sensing array is for sensing a signal produced by a marker that is implanted in an object, such as a human body. The signal generated by the marker is a magnetic field. The sensing array has a plurality of sensing coils and associated amplification circuitry. The method comprises applying an excitation to each of the sensing elements and analyzing the output of the plurality of sensing elements resulting from the excitation. A correction matrix based upon the analyzed outputs of the plurality of sensing elements is determined.